PATENT SPECIFICATION

Application Date: Nov. 3, 1937. No. 30172/37. 505,250

Complete Specification Left: Nov. 3, 1938.

Complete Specification Accepted: May 3, 1939.

PROVISIONAL SPECIFICATION

Improvements relating to Advertising or like Signs

We, THE CINESCOPE PUBLICITY COMPANY LIMITED, a British Company, of Gaters Mill, West End, Southampton, Hampshire, and RUSSELL VERNON DICKINS, a British Subject, of "Friars Hatch", Burley, Ringwood, Hampshire, do hereby declare the nature of this invention to be as follows:—

This invention relates to advertising or like signs of the kind in which a source or sources of illumination is arranged in conjunction with a screen exhibiting display matter, either as a transparency or by reflection. The principal object of the present invention is to provide in an economical manner for even and regular distribution of the illumination. The invention may also be found to avoid excessive heating effects which can be very inconvenient.

According to this invention there is provided in an advertising or like sign of the kind described between the source or sources of light and the object which is to be illuminated, one or more screens of opaque material such as metal, perforated for the passage of light therethrough in a distributed manner: the perforations may be such as to afford a greater area of passage in regions more remote from the most intense light, for example some or all of the holes may be covered by transparencies of colour if desired, and the holes may be various shapes, although as at present intended it suffices that they be circular.

In a particular example of the invention a box sign has a row of electric lamp bulbs within it, to illuminate a translucent panel bearing the display matter. In the ordinary way, in such signs the distribution of light is often so uneven that the individual bulbs can actually be counted. The distribution may be rendered substantially uniform in the following manner. Between each bulb and the screen is mounted a sheet of metal which is perforated with round holes and fairly intensely; the holes in the region of the most intense illumination, i.e. in the beam of light which is shortest as measured between the bulb and the screen, are smaller than those in the least intense regions and the diminution may be progressive or it may be achieved by partially blocking-up the inner holes. A satisfactory screen is one in which approximately half the area of the sheet is left after the holes are formed.

In any preferred form of the invention the sheet above-mentioned is formed as a portion of the sphere and it is mounted on a stalk with a ring to fit around the ordinary lamp fitting, so that the lamp lies within the concavity of the perforated sheet to some extent.

Dated this 3rd day of November, 1937.

For the Applicants,
F. J. CLEVELAND & COMPANY,
Chartered Patent Agents,
29, Southampton Buildings,
Chancery Lane, London, W.C.2.

COMPLETE SPECIFICATION

Improvements relating to Advertising or like Signs

We, THE CINESCOPE PUBLICITY COMPANY LIMITED, a British Company, of Gaters Mill, West End, Southampton, Hampshire, and RUSSELL VERNON DICKINS, a British Subject, of "Friars Hatch", Burley, Ringwood, Hampshire, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to advertising and like signs of the kind in which one or more sources of light are arranged to illuminate a screen exhibiting display matter. The principal object of the present invention is to provide for the even and regular distribution of light on the screen exhibiting display matter so that the localities of the actual sources cannot readily be discerned by the observor, whilst the invention may be found useful to avoid excessive heating effects, which in certain forms of signs can be found very inconvenient.

It has previously been proposed to pro-

vide an anti-dazzle device for motor vehicle lamps comprising the combination with a parabolic or like reflector of a screen adapted to be moved around the light source about a fixed transverse axis, the purpose of the screen being to modify the beam produced by the reflector; the screen as proposed was of hemispherical hollow form partially enclosing the light source, being constituted of metal perforated to permit a certain amount of light to pass through it, if so desired.

According to the invention there is provided an advertising or like sign of the kind described comprising a diffusing screen arranged closely adjacent a source of light and between the source and the screen exhibiting display matter to be illuminated thereby, the diffusing screen being dished so as partially to enclose the source and, having distributed translucent areas in an opaque background, to allow the passage of light therethrough on to the screen exhibiting display matter in a distributed manner. The diffusing screen may be comprised by a sheet of opaque material, such as metal with perforations formed therein, or a material of a translucent nature may have opaque areas. In order to prevent or reduce excessive illumination or glare in regions of the exhibiting screen immediately adjacent the source an additional diffuser may be used to restrict the illumination in the required direction, whilst for the same purpose it may be desirable to afford translucent areas or apertures of greater area for the passage of light to regions more remote from the source. Conveniently a diffusing screen used in the construction according to the invention comprises a metal pressing of circular dished form with a spigot by which it can be attached to an electric plug fitting. The invention is illustrated diagrammatically in the accompanying drawings, in which:—

Figure 1 is a front elevation of a sign having a plurality of sources of light arranged behind a translucent exhibiting screen;

Figure 2 is an enlarged front elevation of an electric bulb source of light with a diffusing screen arranged adjacent thereto;

Figure 3 is a side elevation of the arrangement shown in Figure 2, with the screen in section; and

Figure 4 is a diagrammatic development of a section of the diffusing screen showing a screen in which the area of the perforations varies.

The advertising sign shown in Figure 1 comprises a box 10 with three electric bulb sources of light 11 arranged therein to illuminate a translucent screen 12 from the rear. The interior of the box may be suitably painted to provide a diffusing surface having reasonable reflectivity so that the screen 12 is illuminated not only by direct light, but by reflected light. The screen 12 carries the desired advertising matter represented at 13, and may be of any known translucent kind, the whole surface being generally of diffusing nature and somewhat opaque to prevent direct vision therethrough. It will be appreciated that in a sign such as described above, where the sources 11 are distributed along its length, there may arise considerable variation in illumination of the screen, and for the purpose of minimising such variation the invention provides diffusing means which in the form described comprise perforated screens 14, the construction of which is more clearly seen from Figures 2, 3 and 4. Each screen 14 is arranged to be held adjacent the electric bulb 11, which is supported in the usual bayonet socket 15, and is of dished circular form. The screen 14 is supported on a wire 16 encircling the electric fitting 17, where it is secured by screwed rings 18. A series of circular apertures 19 are arranged in concentric circles, about the centre of the dish, this arrangement being indicated in Figures 2 and 3 by dotted lines. It has been found that a reasonably satisfactory effect is obtained with the perforations of equal size, where an additional diffusing meshed screen such as shown at 20 is used, but it may be desirable to vary the size of the perforations as shown in Figure 4, where it can be seen that the area of the circular perforations increases from the centre of the screen to the periphery. The meshed diffuser 20 of wire or similar material covers the central portion of the diffusing screen 14 and serves to prevent direct rays from the source 11 reaching the part of the screen 12 immediately adjacent the source.

It will be appreciated that by varying the area of the apertures in the diffusing screen 14, the amount of light allowed to pass varies according to the direction from the source, and thus light illuminating more distant parts of the screen 12 is greater in quantity owing to the greater size of the apertures, whereby substantial uniformity of illumination on the screen may be obtained, especially where the sources are fairly considerably spaced apart. Of course, where the glass body of the electric bulb is a diffuser, or where the actual source is distributed considerably within the bulb, any exact calculation of suitable areas of perforations to obtain uniform distribution may be difficult.

The screen 14 further serves the purpose of protecting to some extent the screen 12 from direct heating rays from the electric source 11, whereby detrimentary heating effects may be reduced. For example, where the sign is of the painted kind continued use may result in flaking of or other damage to the indication. For this purpose the screen may be found particularly useful where a gas source of illumination is used, where the heating effects may be fairly considerable.

It will be appreciated that although the invention is described above in relation to a sign of the kind in which the exhibiting screen is translucent, and the matter exhibited thereby is observed by light transmitted therethrough, the invention may also be applied to signs where the display is observed by reflected light; thus one or more sources of illumination arranged on the same side of the screen as the observor, may illuminate a screen of an opaque nature, bearing the matter to be exhibited.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. An advertising or like sign of the kind described comprising a diffusing screen arranged closely adjacent a source of light and between the source and the screen exhibting display matter to be illuminated thereby, the diffusing screen being dished so as partially to enclose the source and having distributed translucent areas in an opaque background, to allow the passage of light therethrouh on to the screen exhibiting display matter in a distributed manner.

2. An advertising or like sign as set forth in Claim 1, wherein the distance from the source to the exhibiting screen varies with differing angular directions from the source to the exhibiting screen, and the diffusing screen is so constructed that the amount of light allowed to pass through it is less in directions corresponding to the shorter distances between the source and exhibiting screen than in directions corresponding to the greater distances.

3. An advertising or like sign as set forth in Claims 1 and 2, wherein the diffusing screen is constructed of opaque material with apertures perforated therein.

4. An advertising or like sign as set forth in Claim 2 or 3, having additional screening means arranged to reduce the illumination on the exhibiting screen in the directions corresponding to the shorter distances between the source and screen.

5. An advertising or like sign as set forth in any previous claim, provided with a diffusing screen, comprising a circular disc or dished form.

6. An advertising or like sign as set forth in any previous claim, wherein the translucent areas or apertures in the diffusing screen, are graduated in size according to the distance of the source from the exhibiting screen, substantially as described.

7. An advertising or like sign as set forth in any previous claim, provided with a diffusing screen comprising a perforated disc, substantially as described with reference to Figures 2, 3 and 4 of the accompanying drawings.

Dated this 1st day of November, 1938.

For the Applicants,
F. J. CLEVELAND & COMPANY,
Chartered Patent Agents,
29, Southampton Buildings,
Chancery Lane, London, W.C.2.

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505,250 COMPLETE SPECIFICATION

1 SHEET

FIG. 1.

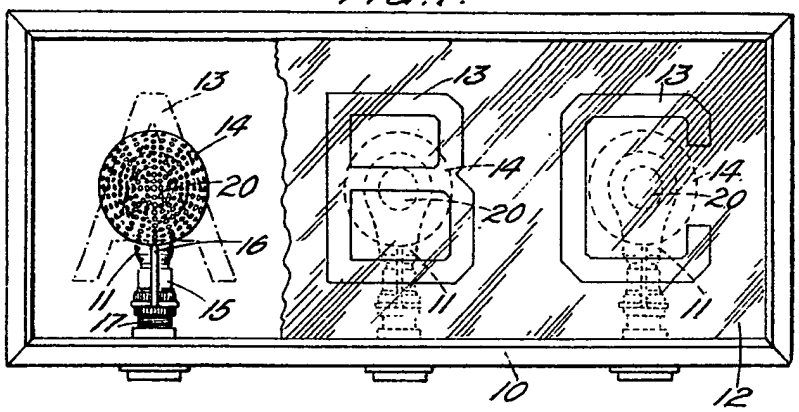


FIG. 2.

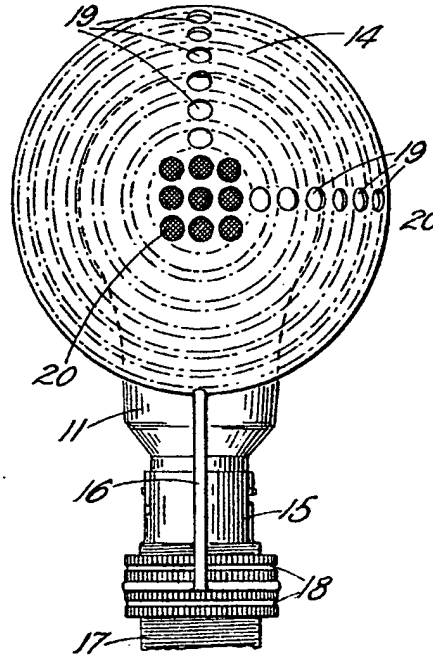


FIG. 3.

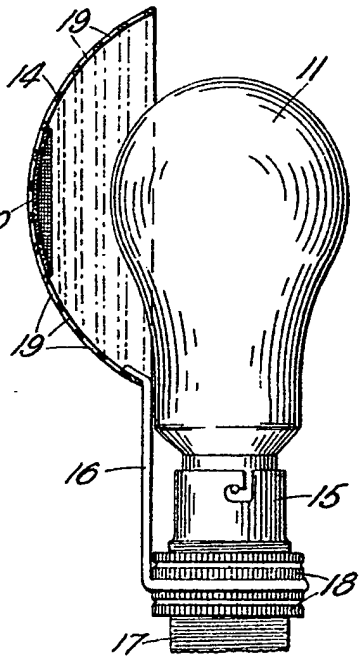
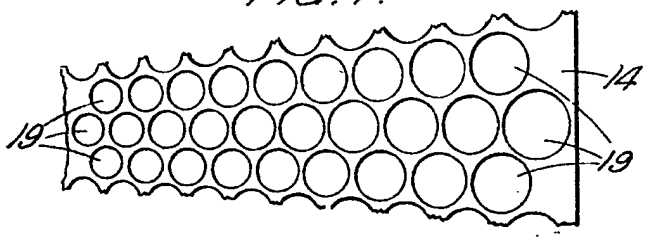


FIG. 4.



[This Drawing is a reproduction of the Original, on a reduced scale.]

Malby & Sons, Photo-Lith